

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A cursor control apparatus which performs cursor control for moving a cursor displayed on a display screen of a display device to a coordinate position of one of a plurality of points visibly or invisibly set in the display screen in accordance with a designation indicating a moving direction of the cursor in the display screen, comprising:

path calculation means for calculating a path which circulates through vicinities of positions of the points on the basis of coordinate positions of the points in the display screen, each of the points being associated with a respective object in an image displayed in the display screen;

intersection point coordinate position calculation means for calculating a coordinate position of an intersection point of the path and a line segment extending from a predetermined coordinate position in a region surrounded by the calculated path, said line segment extending in a direction corresponding to an input direction; ~~indicated by the designation~~; and

display control means for moving a display position of the cursor to the calculated intersection point coordinate position; and confining movement of the cursor thereafter along the calculated path.

wherein vicinities of positions of the points are near the respective coordinate positions of the points.

2. (Original) The apparatus according to claim 1, wherein the coordinate positions of the points are obtained by projecting coordinate positions, which are represented in a three-dimensional coordinate system, of corresponding objects in a three-dimensional virtual space.

3. (Original) The apparatus according to claim 1, wherein the plurality of points include a point whose coordinate position in the display screen dynamically changes.

4. (Currently Amended) The apparatus according to ~~claims~~ claim 1, wherein when line segments are drawn from the predetermined coordinate position in the region surrounded by the path calculated by said path calculation means to the points, the points are arranged on the display screen so as to avoid a situation wherein two or more of the points are located on one of the line segments.

5. (Original) The apparatus according to claim 1, wherein said path calculation means searches for the coordinate positions of the points in a predetermined rotational direction around the predetermined coordinate position based on the coordinate positions of the points, and the path which circulates through all the points is obtained by performing a process of calculating a partial path which connects a found coordinate position and a next found coordinate position for each point.

6. (Original) The apparatus according to claim 5, wherein the partial path is represented by a curve.

7. (Original) The apparatus according to claim 5, wherein the partial path is represented by a line segment.

8. (Currently Amended) A computer readable medium containing A a cursor control program for causing a computer to perform cursor control for moving a cursor displayed on a display screen of a display device of the computer to a coordinate position of one of a plurality of points visibly or invisibly set in the display screen in accordance with a designation indicating a moving direction of the cursor in the display screen, wherein the program causes the computer to perform:

a path calculation step of calculating a path which circulates through vicinities of positions of the points on the basis of coordinate positions of the points in the display screen, each of the points being associated with a respective object in an image displayed in the display screen;

an intersection point coordinate position calculation step of calculating a coordinate position of an intersection point of the path and a line segment extending from a predetermined coordinate position in a region surrounded by the calculated path, said line segment extending in a direction corresponding to an input direction; ~~indicated by the designation~~; and

a display control step of moving a display position of the cursor in the display screen to the calculated intersection point coordinate position, and confining movement of the cursor thereafter in the display screen along the calculated path;

wherein vicinities of positions of the points are near to the respective coordinate positions of the points.

9. (Currently Amended) A method for performing cursor control for moving a cursor displayed on a display screen of a display device to a coordinate position of one of a plurality of points visibly or invisibly set in the display screen in accordance with a designation indicating a moving direction of the cursor in the display screen, comprising:

calculating a path which circulates through vicinities of positions of the points on the basis of coordinate positions of the points in the display screen, each of the points being associated with a respective object in an image displayed in the display screen;

calculating a coordinate position of an intersection point of the path and a line segment extending from a predetermined coordinate position in a region surrounded by the calculated path, said line segment extending in a direction corresponding to an input direction; ~~indicated by the designation~~; and

moving a display position of the cursor in the display screen to the calculated intersection point coordinate position; and confining movement of the cursor thereafter in the display screen along the calculated path.

wherein vicinities of positions of the points are near to the respective coordinate positions of the points.

10. (Previously Presented) The apparatus according to claim 1, wherein the points comprise a first point which has an event generated when the cursor overlaps the first point.

11. (Previously Presented) The apparatus according to claim 1, wherein the path calculation means calculates the path which circulates through vicinities of the positions of the points by:

calculating barycentric position of the points using the coordinate positions of the points;

searching each of the points based on the coordinate positions of the points from the calculated barycentric position;

connecting a newly found point through the searching to one or more points that are previously found through the searching.

12. (Previously Presented) The apparatus according to claim 11, wherein the connecting comprises connecting the newly found point to the one or more points that are previously found using a spline curve, Bezier curve, or a line.

13. (Previously Presented) The apparatus according to claim 1, wherein the points comprise a second point which does not have an event generated when the cursor overlaps the second point.